

## CHAPTER ONE – BACKGROUND, METHODS, AND DEMOGRAPHICS

### Study Background and Purposes

Seattle Public Utilities (SPU) provides water to over 1.14 million people in the Seattle-King County area. A little under half (45%) of customers – mostly those living within the Seattle city limits – receive their water directly from SPU. The remaining 55% of customers receive water through twenty-seven wholesale purveyors.

Over the years, SPU and its purveyors have systematically conducted quantitative and qualitative market research to:

- a) Assess consumer attitudes and behavior towards water conservation and to help design public information campaigns
- b) Track changes in attitudes and behaviors to gauge the effectiveness of public information campaigns
- c) Design and evaluate programs targeted to specific market segments

The goals of the current research are to:

- Identify, and evaluate changes in, perceptions, attitudes, and behaviors of residential customers toward water conservation
- Help guide effective programs to foster and achieve conservation among residential customers

Residential customers account for well over half of SPU's and Purveyor's total water consumption. Thus, with a new regional initiative to step up water conservation efforts in the coming years, understanding and serving this group of consumers is important for achieving conservation goals.

### Study Methods

#### *Approach*

Seattle Public Utilities hired Dethman & Tangora LLC, a market research firm in Seattle, to conduct the research, and to oversee Market Data Research Corporation, a survey fielding firm in Tacoma, in collecting and processing the data. Telephone interviews with a randomly selected, representative sample of 603 residential customers from Seattle and 620 residential customers from Purveyor service areas were conducted during the first two weeks of October, 1999. Interviews lasted about 15 minutes and were conducted using a computer assisted interviewing system. Data were analyzed using standard data reduction and statistical methods.

The sample was drawn to provide adequate numbers for a separate analysis of Seattle and Purveyor customers, as well as to provide reliable overall population proportions. The following margins of error and confidence intervals apply:

- **Overall Population Sample = 1223.** This sample has been weighted to reflect the population proportions of Seattle (45%) and Purveyor (55%) populations. This sample size carries a + or – 2.9% margin of error with 95% confidence.
- **Seattle Sample = 603,** carries a + or – 4.1% margin of error with 95% confidence
- **Purveyor Sample = 620,** carries a + or – 4.1% margin of error with 95% confidence

### ***Comparisons With Prior Survey Data***

Given the changing household profile of the area and the desire to broaden the conservation ethic to all consumers, the current survey covered all residential households, both single family and multi-family. Thus, overall population figures represent all households in Seattle and Purveyor service areas.

This report also compares results, where similar questions were asked, to a SPU's *1994 Home Water Use Survey* and *1991 Summer Water Conservation Study*, both of which polled single family households only. To draw an accurate picture of changes between the 1991, 1994 and 1999 data, only the statistics of single family households are compared.

### ***Table and Figure Notes***

Throughout the main body of this report, three types of data may be presented for each question:

1. A pie chart that shows the overall weighted population proportions for 1999.
2. A table that compares 1999 Seattle and Purveyor households for that question. These samples represent each geographic area and are not weighted. If significant differences exist between Seattle and Purveyor customers, it is indicated by *Significance (Sig) = <.05*, meaning that the differences only had a 5% chance of occurring by chance. If no significant differences were present, the table is labeled Not Significant (N.S.).
3. A table that compares 1994 and 1999 survey results (only for single family households). In both cases, data have been weighted to reflect population proportions.

## Demographic and Household Characteristics

### *Summary*

Demographic and household characteristics of the population, Seattle and Purveyor households, and 1994 and 1999 single family households are shown in **Table 3**.

These findings show that:

- Most customers (75% overall) own their homes, but that significantly more customers own their homes in Purveyor areas (80%) than in Seattle (68%). A similar pattern follows for single family versus multi-family dwellings.
- Lot sizes are significantly larger in Purveyor areas, where 41% of single family homes are on ¼ acre or more, compared to 12% in Seattle.
- Average household size is about 2.5 people, with no significant difference between Seattle and Purveyor customers and no difference between 1994 and 1999 single family homes.
- Most (58%) customers are 45 or older.
- Seattle has a slightly, but statistically significant, greater ethnic population (14%) than Purveyor areas (9%). Overall, population proportions by ethnicity are fairly consistent with U.S. Census Bureau statistics for King County.
- Purveyor households are more likely than Seattle households to have incomes above \$75,000, while Seattle households are more likely to have incomes of \$25,000 or below.
- Little has changed in the demographics of single family households since 1994.

Table 3 - Summary Table of Demographics (Q51-57)

<b>Home Ownership vs. Renting (Q53) Sig. = &lt;.05</b>	<b>Seattle %</b>	<b>Purveyor %</b>	<b>Population %*</b>	<b>1994 Single Family %</b>	<b>1999 Single Family %</b>
Own	68	80	75	90	89
Rent	31	19	24	9	11
Don't Know/Refused	1	1	1	1	1
<b>Type of Dwelling (Q51) Sig. = &lt;.05</b>	<b>Seattle %</b>	<b>Purveyor %</b>	<b>Population %*</b>	<b>1994 Single Family %</b>	<b>1999 Single Family %</b>
Single dwelling	74	82	78	Not Applicable	
Multi-dwelling	26	17	21		
Don't Know/Refused	-	1	1		
<b>Lot Size (Q52) Sig. = &lt;.05</b>	<b>Seattle %</b>	<b>Purveyor %</b>	<b>Population %*</b>	<b>1994 Single Family %</b>	<b>1999 Single Family %</b>
Small (less than 5,000 sq. ft.)	36	16	24	19	24
Average (5,000 to 10,000 sq. ft.)	49	39	43	51	44
¼ acre to ½ acre	10	24	18	17	18
More than ½ acre	2	17	11	9	11
Don't Know/Refused	3	4	4	4	3
<b>Number in Household (Q54) N.S.</b>	<b>Seattle %</b>	<b>Purveyor %</b>	<b>Population %*</b>	<b>1994 Single Family %</b>	<b>1999 Single Family %</b>
1	28	16	22	17	16
2	38	40	39	41	39
3	17	18	17	16	19
4	10	15	13	17	15
5 or more	6	11	8	9	9
Don't Know/Refused	-	-	-	-	1
Average	2.3	2.7	2.52		2.69
<b>Age (Q55) N.S.</b>	<b>Seattle %</b>	<b>Purveyor %</b>	<b>Population %*</b>	<b>1994 Single Family %</b>	<b>1999 Single Family %</b>
18-24	5	4	5	1	3
25-34	14	12	13	11	11
35-44	20	23	22	24	24
45-54	19	19	19	22	21
55-64	11	15	13	15	15
65 or older	28	24	26	25	25
Don't Know/Refused	2	2	2	2	2

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<b>Ethnicity (Q56) Sig. = &lt;.05</b>	<b>Seattle %</b>	<b>Purveyor %</b>	<b>Population %* **</b>	<b>1994 Single Family %</b>	<b>1999 Single Family %</b>
Caucasian	82	84	83	84	84
Asian/Pacific Islander	7	3	5	7	5
African-American	3	2	2	1	2
Latino/Hispanic	2	2	2	1	2
Native American	1	1	1	-	1
Other	1	1	1	2	1
Don't Know/Refused	4	6	5	5	5
<b>Household Income (Q57) Sig. = &lt;.05</b>	<b>Seattle %</b>	<b>Purveyor %</b>	<b>Population %*</b>	<b>1994 Single Family %</b>	<b>1999 Single Family %</b>
Less than \$15,000	8	3	5	7	4
\$15,000 to \$25,000	12	6	9	11	7
\$25,000 to \$50,000	23	21	22	28	21
\$50,000 – \$75,000	15	14	14	20	15
\$75,000 - \$100,000	8	11	9	11	10
Over \$100,000	7	11	9	10	11
Don't Know/Refused	27	34	31	13	32
<b>Gender Sig. = &lt; .05</b>	<b>Seattle %</b>	<b>Purveyor %</b>	<b>Population %*</b>	<b>1994 Single Family %</b>	<b>1999 Single Family %</b>
Female	50	56	54	Not Applicable	
Male	50	44	46		
<i>N</i> =	603	620	1223	2505	1223
<b>Notes:</b> *Population percentages are weighted to reflect population proportions **1998 U.S. Census estimates for King County by ethnic group show Caucasian = 78%; Asian = 11%; African American = 6%; Hispanic (of any race) = 4%; American Indian = 1%; and Other = <1%.					